

October 01, 2015

Ms. Robin Feller
JRM Environmental, Inc.
PO Box 926
Brownsburg, IN 461120926

RE: Project: Duke Ed. Special
Pace Project No.: 50128270

Dear Ms. Feller:

Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Karen Fullmer
karen.fullmer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: Duke Ed. Special

Pace Project No.: 50128270

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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SAMPLE SUMMARY

Project: Duke Ed. Special

Pace Project No.: 50128270

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50128270001	Field Blank	Water	09/22/15 10:30	09/22/15 13:55
50128270002	Filter Water	Water	09/22/15 10:35	09/22/15 13:55
50128270003	Grey Water Out	Water	09/22/15 10:45	09/22/15 13:55
50128270004	Grey Water Influent	Water	09/22/15 10:50	09/22/15 13:55

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SAMPLE ANALYTE COUNT

Project: Duke Ed. Special

Pace Project No.: 50128270

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50128270001	Field Blank	EPA 1631E	WJW	1
50128270002	Filter Water	EPA 1631E	WJW	1
50128270003	Grey Water Out	EPA 1631E	WJW	1
50128270004	Grey Water Influent	EPA 1631E	WJW	1

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ANALYTICAL RESULTS

Project: Duke Ed. Special

Pace Project No.: 50128270

Sample: Field Blank		Lab ID: 50128270001	Collected: 09/22/15 10:30	Received: 09/22/15 13:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level		Analytical Method: EPA 1631E Preparation Method: EPA 1631E						
Mercury	ND	ng/L	0.50	1	09/27/15 09:00	09/28/15 09:42	7439-97-6	

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ANALYTICAL RESULTS

Project: Duke Ed. Special

Pace Project No.: 50128270

Sample: Filter Water		Lab ID: 50128270002		Collected: 09/22/15 10:35		Received: 09/22/15 13:55		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level		Analytical Method: EPA 1631E Preparation Method: EPA 1631E							
Mercury	ND	ng/L	0.50	1	09/27/15 09:00	09/28/15 10:20	7439-97-6		

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ANALYTICAL RESULTS

Project: Duke Ed. Special

Pace Project No.: 50128270

Sample: Grey Water Out		Lab ID: 50128270003	Collected: 09/22/15 10:45	Received: 09/22/15 13:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level		Analytical Method: EPA 1631E Preparation Method: EPA 1631E						
Mercury	10.8	ng/L	2.5	1	09/27/15 09:00	09/28/15 11:14	7439-97-6	

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ANALYTICAL RESULTS

Project: Duke Ed. Special

Pace Project No.: 50128270

Sample: Grey Water Influent		Lab ID: 50128270004	Collected: 09/22/15 10:50	Received: 09/22/15 13:55	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level		Analytical Method: EPA 1631E Preparation Method: EPA 1631E						
Mercury	22.0	ng/L	2.5	1	09/27/15 09:00	09/28/15 11:21	7439-97-6	

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QUALITY CONTROL DATA

Project: Duke Ed. Special

Pace Project No.: 50128270

QC Batch: CVFS/1124

Analysis Method: EPA 1631E

QC Batch Method: EPA 1631E

Analysis Description: 1631E Mercury

Associated Lab Samples: 50128270001, 50128270002, 50128270003, 50128270004

METHOD BLANK: 1389962

Matrix: Water

Associated Lab Samples: 50128270001, 50128270002, 50128270003, 50128270004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	09/28/15 10:13	

METHOD BLANK: 1389963

Matrix: Water

Associated Lab Samples: 50128270001, 50128270002, 50128270003, 50128270004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	09/28/15 11:06	

METHOD BLANK: 1389964

Matrix: Water

Associated Lab Samples: 50128270001, 50128270002, 50128270003, 50128270004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	09/28/15 12:12	

LABORATORY CONTROL SAMPLE: 1389965

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ng/L	5	5.18	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389966 1389967

Parameter	Units	50128270002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	ND	2.5	2.5	2.83	2.78	101	99	71-125	2	24	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389970 1389971

Parameter	Units	50128309001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	0.700	2.5	2.5	2.72	2.74	81	82	71-125	1	24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Duke Ed. Special

Pace Project No.: 50128270

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Duke Ed. Special

Pace Project No.: 50128270

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50128270001	Field Blank	EPA 1631E	CVFS/1124	EPA 1631E	CVFS/1125
50128270002	Filter Water	EPA 1631E	CVFS/1124	EPA 1631E	CVFS/1125
50128270003	Grey Water Out	EPA 1631E	CVFS/1124	EPA 1631E	CVFS/1125
50128270004	Grey Water Influent	EPA 1631E	CVFS/1124	EPA 1631E	CVFS/1125

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Section A	Section B	Section C
Required Client Information:	Required Project Information:	Invoice Information:
Company: JRM Env	Report To: JRM Environmental	Attention: Robin Feller
Address: Brownburg	Copy To:	Company Name: JRM Env
Email To:	Purchase Order No.:	Address:
Phone:	Project Name: Duke Ed. Special	Pace Quota Reference:
Fax:	Project Number:	Pace Project Manager:
Requested Due Date/TAT:		Pace Profile #:

Page: _____ of _____ GWS

1950934

REGULATORY AGENCY
☒ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location
 STATE: _____

[illegible]

Sample Condition Upon Receipt

Pace Analytical

Client Name: JRM ENV Project # 50128270

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other Ziploc

Thermometer Q23456 ABCDEF

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 31.8
(Corrected, if applicable)

Ice Visible In Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: H-S-9-22-15

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
-Includes date/time/ID/Analysis		
All containers needing acid/base pres. have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9. (Circle) HNO ₃ H ₂ SO ₄ NaOH NaOH/ZnAc
exceptions: VOA, coliform, TOC, O&G		
All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.		
Residual Chlorine Check (SVOC 625 Pest/PCB 608)		10. Present Absent
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Headspace TCLP Volatiles	<input type="checkbox"/> Yes <input type="checkbox"/> No	12.
Headspace Wisconsin Sulfide / Acidity	<input type="checkbox"/> Yes <input type="checkbox"/> No	13.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Project Manager Review		
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17.

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Project Manager Review:

K. G. M. O.

Date: 9-22-15

Sample Container Count

CLIENT: JRM GAN

COC PAGE 1 of 1950934
COC ID# 1950934

Project # 50128270

Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SP5T	AG2U	pH <2	pH >9	pH >12
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Container Codes

DG9H	40mL HCL amber vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber glass	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	SP5T	120mL Coliform Na Thiosulfate
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear glass	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFU	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag